Title: **Sediment Collection for Analytical Chemistry Suite and Toxicity Testing**

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1.0 OBJECTIVE

To collect sediment for analytical chemistry suite.

2.0 HEALTH AND SAFETY

Personnel should be aware that this procedure requires traversing in mud and water, traveling in boats, and lifting grab samplers, buckets and jars filled with sediment. Personnel should wear hipboots, chestwaders or wetsuit with boots depending on water depth or preference of the wearer and lifejacket if traveling in boat. Personnel should know how to swim and posess the ability to do so.

3.0 PERSONNEL/TRAINING/RESPONSIBILITIES

Any employee who routinely works in the laboratory and is able to walk in mud and water, travel in a boat, and lift objects that could be heavy should be capable of performing this task. Training of new staff should be carried out under supervision of an experienced technical employee familiar with this SOP before the employee can work unsupervised.

4.0 REQUIRED AND RECOMMENDED MATERIALS

Hipboots
Chestwaders
Wet suit with boots
Life jacket
Blue Ice
Acetone
Cooler
Stainless Steel buckets
Stainless Steel spoons
Sterile Polystyrene Scoops
Glass and Plastic Jars

5.0 PROCEDURE

5.1 Sediment Collection by Scoop

1. Place the following items in a cooler. This description is for collecting sediments from one site.

1-Stainless steel pot (SOP cleaned) – size determined by amount of sediment needed.
1-Stainless steel spoon (SOP cleaned)
2-Sterile Polystyrene Scoops (pre-packaged)
Pre-labeled and pre-cleaned jars (number and sizes will vary)
Glass – organic, archive, bioassay
Plastic – metals, grain size/TOC, AVS

Blue ice (frozen)
Acetone (no more than 500 ml)

2. Jars must labeled with name of project, date, time, location of collection, and type of analysis/test needed.

3. Upon reaching site, remove scoops and collect only the upper 2.5 – 3.5 cm of undisturbed sediment. Scoops are to be used for one site only. Discard upon returning to lab.

4.. Place in pot unitl desired amount reached.

5. Mix well with spoon.

6. Dole out sediments into jars leaving at least a 2 cm space from the top.

7. Transport back to lab in cooler with blue ice.

8. May also transport to lab in stainless steel pot if a secure lid is on top and retruning directly back to the lab. Then mix and distribute as stated.

9. Once at the lab, jars of sediment must be logged into chemistry database, labeled with a number and stored in walk-in freezer.

10. If the stainless steel pot and spoon are to be used for more than one site in the field, then pot and spoon should be cleaned thoroughly in field water to remove all sediment, rinse with acetone; and, once at the new collection site, rinse with water from that site.

5.2 Sediment Collection by Grab Sampler

1. Collection is as outlined above except a Young, modified van Veen or petite ponar type grab sampler will be used. These samplers should be kynar-lined and/or stainless steel.

2. Upon bringing to surface, drain water before getting sediment.

3. Using a sterile scoop, as above, remove 2 –3 cm of sediment and transfer to stainless steel pot.

4. Follow steps as above.

6.0 QUALITY CONTROL/QUALITY ASSURANCE

Personnel should adhere to good laboratory practices while collecting sediment. Collection should always be performed with proper precautions when lifting sediment, traversing through mud and water, and traveling by boat.

7.0 REFERENCES

DeWoskin, R.S. 1984. Good laboratory practice regulations: a comparison. Research Triangle Institute, Research Triangle Park, North Carolina. 63 pp.

USEPA. 1979. Good laboratory practice standards for health effects. Part 772 - Standards for development of test data. Fed. Reg. 44:27362-27375, May 9, 1979.

USEPA. 1980. Physical, chemical, persistence, and ecological effects testing; good laboratory practice standards (proposed rule). 40 CFR 772, Fed. Reg. 45:77353-77365. November 21, 1980.